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**2012/001 First report of *Pseudomonas syringae* pv. *actinidiae* in Turkey**

During the spring and autumn of 2009 and 2010, unusual symptoms were observed on kiwifruit plants (*Actinidia deliciosa* cv. 'Hayward') in Rize province (Black Sea region), Turkey. Symptoms were characterized by dark brown spots surrounded by yellow halos on leaves and cankers with reddish exudate production on twigs and stems. It is estimated that the disease incidence was 3% over approximately 10 ha. Eight bacterial strains were isolated from leaf spots and tissues under the bark on selective medium (King's B) and identified as *Pseudomonas syringae* pv. *actinidiae* (EPPO Alert List) on the basis of biochemical, physiological, and molecular (PCR) tests. Pathogenicity tests were also performed and similar symptoms could be obtained by inoculating a bacterial suspension into 2 year-old plants of *A. deliciosa* cv. 'Hayward'. The bacterium could be re-isolated from these artificially inoculated plants. This is the first report of *P. syringae* pv. *actinidiae* from Turkey.

The situation of *Pseudomonas syringae* pv. *actinidiae* can be described as follows: **Present, first detected in 2009/2010 in Rize province (Black Sea region).**

**Source:** Bastas KK, Karakaya A (2012) First report of bacterial canker of kiwifruit caused by *Pseudomonas syringae* pv. *actinidiae* in Turkey. *Plant Disease* 96(3), p 452.  
<http://dx.doi.org/10.1094/PDIS-08-11-0675>

Additional key words: new record

Computer codes: PSDMAK, TR

**2012/002 Situation of *Pseudomonas syringae* pv. *actinidiae* in France**

In France, the presence of *Pseudomonas syringae* pv. *actinidiae* (EPPO Alert List) was detected for the first time in July 2010 in samples of *Actinidia deliciosa* cv. 'Summer' (green kiwifruit) which had been collected from Rhône-Alpes region (EPPO RS 2010/188). A monitoring programme was implemented in 2011 on 2 066 ha of kiwifruit (the total cultivated area in France is 4 300 ha) under the supervision of both the phytosanitary authorities and the growers. As a result, the bacterium was found in the following six regions: Aquitaine, Corse, Midi-Pyrénées, Pays de Loire, Poitou-Charentes, and Rhône-Alpes. *P. syringae* pv. *actinidiae* was mainly detected in green kiwifruit cultivars (*A. deliciosa*), and more particularly in the early cultivar 'Summer'. The green kiwifruits (*A. deliciosa*) represented 69.8% of the positive results, yellow kiwifruits (*A. chinensis*) and other species (e.g. *A. arguta*) represented 29.4% and less than 1%, respectively.

At present, control measures are not compulsory but highly recommended by the French NPPO. Until now, 38.8 ha of *Actinidia* spp. plants (60% yellow kiwifruits) have been drastically pruned (removal of diseased parts without uprooting) and several orchards (9 ha) are being completely uprooted. Monitoring activities will continue in 2012. Research programmes associating different partners (ANSES, INRA, Research Institutes in Italy and New Zealand) are being initiated to better understand the epidemiology of the disease and develop appropriate curative and preventive control methods. The French NPPO is also reflecting on possible compulsory measures which could be taken against this disease.

The pest status of *Pseudomonas syringae* pv. *actinidiae* in France is officially declared as: **Present, only in some areas, but managed.**

**Source:** NPPO of France (2011-01).

Additional key words: detailed record

Computer codes: PSDMAK, FR

**2012/003 First report of *Xanthomonas axonopodis* pv. *poinsettiicola* in Slovenia**

In Slovenia, the presence of *Xanthomonas axonopodis* pv. *poinsettiicola* (EPPO A2 List) was detected for the first time in 2009. The disease was found in a commercial glasshouse producing pot plants of poinsettia (*Euphorbia pulcherrima*) in September 2009. It is suspected that the bacterium was introduced into this glasshouse with the import of infected mother plants.

The situation of *Xanthomonas axonopodis* pv. *poinsettiicola* in Slovenia can be described as follows: **Present, detected in 2009 in 1 glasshouse.**

**Source:** Dreo T, Pirc M, Erjavec J, Ravnikar M (2011) First report of *Xanthomonas axonopodis* pv. *poinsettiicola* causing bacterial leaf spot of *Euphorbia pulcherrima* in Slovenia. *Plant Disease* **95**(1), 70-71.

Additional key words: new record

Computer codes: XANTPN, SI

**2012/004 First report of *Xanthomonas axonopodis* pv. *poinsettiicola* in Norway**

In Norway, the presence of *Xanthomonas axonopodis* pv. *poinsettiicola* (EPPO A2 List) was detected for the first time in September 2010. The bacterium was detected on samples of poinsettias (*Euphorbia pulcherrima*) which had been sent for analysis by a grower located in Hordaland county. In the period following the first detection, Norwegian poinsettia growers were advised to inspect their crops. Suspect samples were received from 28 poinsettia producers and *X. axonopodis* pv. *poinsettiicola* was detected at 15 additional places of production. Growers were recommended to disinfect their premises and start the new growing season with healthy planting material. It is stressed that in Norway, poinsettia is the largest flowering potted-plant production with approximately 6 million plants produced yearly, and that most of these plants are produced from imported cuttings.

The situation of *Xanthomonas axonopodis* pv. *poinsettiicola* in Norway can be described as follows: **Present, detected in 2010 in 16 places of production.**

**Source:** Perminow JIS, Sletten A, Brurberg MV (2011) First report of leaf spot caused by *Xanthomonas axonopodis* pv. *poinsettiicola* on poinsettia (*Euphorbia pulcherrima*) in Norway. *Plant Disease* **95**(7), p 1187.

Additional key words: new record

Computer codes: XANTPN, NO

**2012/005 First report of *Globodera rostochiensis* in Bosnia and Herzegovina**

In Bosnia and Herzegovina, surveys for potato cyst nematodes (*Globodera rostochiensis* and *G. pallida* - both EPPO A2 List) were carried out in 2008, 2009 and 2010. Soil samples consisting of 100 cores of 4 to 5 mL of soil (approximately 500 g of soil in total) were taken following a grid pattern throughout the potato plots. Samples were processed in the laboratory and nematode species identification was based on morphological characters and real-time PCR. In 2008, 5 locations were sampled and no *Globodera* species were found. In June 2009, 17 soil samples were collected from 7 locations and 2 viable cysts of *G. rostochiensis* were found in 1 sample from Tihaljina (Grude municipality). In May and June 2010, 110 soil samples were collected from 90 locations and 5 viable cysts of *G.*

*rostochiensis* were detected in 1 sample from the municipality of Čapljina. It is concluded that for the moment *G. rostochiensis* is not widely spread, suggesting that the infestation is relatively recent. It is also noted that measures should be taken to maintain its populations at low levels and prevent its further spread. *G. pallida* was not found. The situation of *Globodera rostochiensis* in Bosnia and Herzegovina can be described as follows: **Present, first found in 2009, detected in a small number of soil samples.**

**Source:** Ostojić I, Grubišić D, Zovko M, Miličević T, Gotlin T (2011) First report of the golden potato cyst nematode, *Globodera rostochiensis* in Bosnia and Herzegovina. *Plant Disease* **95**(7), p 883.

**Additional key words:** new record

**Computer codes:** HETGRO, BA

### 2012/006 Cyst nematodes of maize: addition of *Heterodera zae* and *Punctodera chalcoensis* to the EPPO Alert List

In their recent review, Nicol *et al.* (2011) focus on nematode species that may present a threat to agriculture worldwide. Considering maize (*Zea mays*) cultivation, they explain that more than 60 nematode species have been found associated with maize in different parts of the world. Most of these species have been recorded from roots or soil around maize roots but for many of them data is lacking on their biology and pathogenicity. The most important groups of plant parasitic nematodes which are limiting factors in maize production include root knot nematodes (*Meloidogyne* spp.), root lesion nematodes (*Pratylenchus* spp.) and cyst nematodes (*Heterodera* spp.). Among cyst nematodes, more than 9 species have been recorded as being associated with maize in subtropical and tropical countries, but only three (*Heterodera avenae*, *Punctodera chalcoensis* and *H. zae*) are considered economically important.

- *H. avenae* is a cosmopolitan species (also widespread in the EPPO region) and a well-known pest of cereals (wheat, barley, oat, rye). Although there is limited information on its pathogenicity on maize, the fact that it can be associated with this crop could be important in wheat/maize production systems.
- *Punctodera chalcoensis* has only been reported from Mexico where it causes significant economic damage to maize crops. Its host range is limited to maize and teosinte (*Euchlaena mexicana*).
- *H. zae* was first described in 1970 from a village in India (Chapli, Udaipur district, Rajasthan), and it is now known to be widely distributed in the major maize-growing areas of northern, central, eastern and western parts of India. In Asia, this nematode has been reported from Nepal, Pakistan and Thailand. *H. zae* is also known to occur in the Nile valley in Egypt. In the USA, *H. zae* was first recorded in Maryland (in 1984) and then in Virginia (in 1992). In the USA, it is considered as an exotic and introduced species, and phytosanitary measures were put in place when it was discovered. However, in 1996, the US federal regulations for *H. zae* were lifted on the basis that the infestation was contained by the two states affected. In Europe, *H. zae* was reported for the first time in Portugal in 2002. During a survey on *Heterodera* species, cysts and second-stage juveniles (J2) of *H. zae* were recovered from soil samples collected near a fig tree (*Ficus carica*) and from two maize fields in three different localities in the Central region: Pego (municipality of Abrantes), São Facundo (municipality of Abrantes) and Granja (municipality of Coimbra).

Considering the importance of maize cultivation in the EPPO region, the EPPO Panel on Diagnostics in Nematology suggested that *Heterodera zea* and *Punctodera chalcoensis* should be added to the EPPO Alert List.

**Source:** Nicol JM, Turner SJ, Coyne DL, den Nijs L, Hockland S, Tahna Maafi Z (2011) Current nematode threats to world agriculture. In: Jones J, Gheysen G, Fenoll C (eds) *Genomics and molecular genetics of plant-nematode interactions*. Springer, 557 pp. Available online: [http://dx.doi.org/10.1007/978-94-007-0434-3\\_2](http://dx.doi.org/10.1007/978-94-007-0434-3_2)

**Additional key words:** alert list

**Computer codes:** HETDZE, PUNCCH

*Punctodera chalcoensis* (Nematoda: Heteroderidae) - Mexican corn cyst nematode

Why	<i>Punctodera chalcoensis</i> is a cyst nematode which causes economic damage to maize crops in Mexico. Damage observed in the maize-growing area of Huamantla (Tlaxcala state) was first attributed to a Mexican race of <i>Heterodera punctata</i> . In 1976, it was found that the Mexican specimens differed from <i>P. punctata</i> and belonged to a distinct species which was called <i>Punctodera chalcoensis</i> (type specimens were collected near Chalco, state of Mexico). Considering the importance of maize cultivation in the EPPO region, the EPPO Panel on Diagnostics in Nematology suggested adding <i>P. chalcoensis</i> to the EPPO Alert List.
Where	<i>P. chalcoensis</i> is widespread in Mexico in temperate maize-growing areas. Its presence has been reported at least in the following states: Jalisco, México, Michoacán, Puebla, Querétaro, Tlaxcala, Veracruz. Considering the very limited world distribution of <i>P. chalcoensis</i> and the fact that it feeds only on maize and teosinte (a close relative), it is suggested that <i>P. chalcoensis</i> is indigenous to Central Mexico and that it has co-evolved there with maize. <b>North America:</b> Mexico (Jalisco, México, Michoacán, Puebla, Querétaro, Tlaxcala, Veracruz). <b>EPPO region:</b> absent.
On which plants	The host range of <i>P. chalcoensis</i> is limited to maize ( <i>Zea mays</i> ) and teosinte ( <i>Euchlaena mexicana</i> ).
Damage	Infested maize fields show patches of stunted and chlorotic plants. In heavily infested sandy soils, plants are markedly stunted with chlorotic leaves exhibiting pale colour stripes. The root system of attacked plants is generally poorly developed. Two months after planting (at the beginning of the rainy season in Mexico), large numbers of white females can be observed on the root surface of infested plants. Damage is more severe during the rainy season, as precipitation stimulates the emergence of juveniles and subsequently favours the invasion of the roots. <i>P. chalcoensis</i> survives and reproduces well in all soil types, but damage is more severe on volcanic sandy soils. Attacked roots are also prone to secondary infections by other pathogens. Studies carried out in the 1980s showed that under glasshouse conditions, a yield reduction of about 60% could be obtained with maize plants grown in heavily infested soils. Under certain conditions, especially when pathogenic fungi are present, it has been reported that <i>P. chalcoensis</i> could significantly reduce maize yield (up to 90%). Although yield losses in maize fields infested by <i>P. chalcoensis</i> are considered to be high in Mexico, information on economic losses is generally lacking. <i>P. chalcoensis</i> is a sedentary endoparasitic nematode. It has one generation per year and survives winter in diapause. A period of hibernation is required to break diapause and stimulate the emergence of second-stage juveniles in the following spring. Under experimental conditions, the life cycle is completed in approximately 30 to 50 days. The males mature earlier than the females, emerge from the host root, then move towards the females and mate with them. Eggs are produced after fertilization and are retained in the female body. Females form spherical cysts, pale to dark brown, darkening with age which may contain

Dissemination	200 to 400 eggs. Second-stage juveniles emerge from the cysts, penetrate host roots and establish a specialized feeding site (syncytium) in root tissues.
Pathway	As with most cyst nematodes, dissemination is largely ensured by passive transport with soil, water, and plant material. The mobile stages (juveniles, males) can only move over very short distances. There is no data on the longevity of cysts in the soil, but as for other cyst nematode species it is likely that <i>P. chalconensis</i> cysts remain viable in the soil for several years.
Possible risks	Infested soil and growing media, plants for planting, bulbs and tubers from areas where <i>P. chalconensis</i> occurs are the most probable pathways to introduce this pest into the EPPO region. Soil attached to machinery, tools, footwear, or plant products is also another possible pathway.
Sources	Maize is widely grown in the EPPO region and is of major economic importance. Cyst nematodes generally are difficult to control once established because of the persistence of the cysts in the soil. In Mexico, differences have been observed in maize susceptibility but no resistant cultivars have been identified. There is no data on the impact of crop rotation to diminish the nematode populations, although it is likely to be effective. Other cultural methods, such as early sowing (before hatching of juveniles) and good plant nutrition are likely to reduce the impact of the pest. Nematicide treatments are becoming more and more difficult to apply in field crops for economic and environmental reasons. Although more data is needed on the economic impact of <i>P. chalconensis</i> on maize, it is generally reported from Mexico that it can reduce maize yield and cause economic losses. As it has been observed in temperate areas of Mexico (e.g. in regions above 2000 m altitude), it seems likely that this species has the potential to establish in the EPPO region, although more data on its biology would be needed to verify this assumption.
EPP0 RS 2012/006 Panel review date	<p>CABI Crop Protection Compendium. Data sheet on <i>Punctodera chalconensis</i>. <a href="http://www.cabi.org">http://www.cabi.org</a></p> <p>McDonald AH, Nicol JM (2005) Nematodes parasites of cereals. In: Luc M, Sikora RA, Bridge J (eds.) <i>Plant parasitic nematodes in subtropical and tropical agriculture</i>. 2<sup>nd</sup> edition. CABI Wallingford (GB), pp 131-191.</p> <p>Sosa Moss C (1987) Cyst nematodes in Mexico, Central and South America. <i>Nematologia Mediterranea</i> 15(1), 1-12.</p> <p>Stone AR, Sosa Moss C, Mulvey RH (1976) <i>Punctodera chalconensis</i> n.sp. (Nematoda: Heteroderidae) a cyst nematode from Mexico parasitising <i>Zea mays</i>. <i>Nematologica</i> 22(4), 381-389.</p> <p>Suarez Z, Sosa Moss C, Inserra RN (1985) Anatomical changes induced by <i>Punctodera chalconensis</i> in corn roots. <i>Journal of Nematology</i> 17(2), 242-244.</p> <p>Tovar-Soto A, Cid del Prado-Vera I, Sandoval-Islas JS, Martínez-Garza A, Nicol JM, Evans K (2006) Los nematodos formadores de quistes en México. <i>Revista Mexicana de Fitopatología</i> 24(2), 145-151.</p> <p style="text-align: right;">Entry date 2012-01</p>

*Heterodera zeae* (Nematoda: Heteroderidae) -Corn cyst nematode

Why	<i>Heterodera zeae</i> is a cyst nematode which has been reported from different parts of the world on maize and other Poaceae. <i>H. zeae</i> was first described in India where it is considered to be the most important nematode problem in maize. It is also considered as widespread in Pakistan. Considering the importance of maize cultivation in the EPPO region, the EPPO Panel on Diagnostics in Nematology suggested adding <i>H. zeae</i> to the EPPO Alert List.
Where	<i>H. zeae</i> was first described in 1970 in India where it is now considered as widespread. It was then reported in Pakistan (1980), Egypt (1981), USA (1981), Thailand (1995), Nepal (2001), and Portugal (2002). <b>Africa:</b> Egypt. <b>Asia:</b> India (Andhra Pradesh, Bihar, Chhattisgarh, Delhi, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Jharkand, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttaranchal, West Bengal), Nepal, Pakistan, Thailand.

	<p><b>North America:</b> USA (Maryland, Virginia). <i>H. zae</i> is considered as an exotic and introduced species (federal regulations were put in place but lifted in 1996, as it was considered that the infestation was contained).</p>
On which plants	<p><b>EPPO region:</b> Egypt, Portugal (Central region). <i>H. zae</i> was detected in 2002 in soil samples collected near a fig tree (<i>Ficus carica</i>) and from two maize fields in 3 localities: Pego, São Facundo (both in municipality of Abrantes) and Granja (municipality of Coimbra). However, since this first record no further information could be found about the current distribution and impact of <i>H. zae</i> in Portugal.</p>
	<p><i>Zea mays</i> (maize) is the major host plant of <i>H. zae</i>. Other cultivated or wild Poaceae species are also considered as suitable host plants, such as <i>Alopecurus pratensis</i>, <i>Avena sativa</i> (oat), <i>Coix lacryma-jobi</i>, <i>Euchlaena mexicana</i> (teosinte), <i>Hordeum vulgare</i> (barley), <i>Panicum miliaceum</i> (millet), <i>Setaria italica</i> (Italian millet), <i>Triticum aestivum</i> (wheat), <i>Oryza sativa</i> (rice), <i>Saccharum officinale</i> (sugarcane) <i>Sorghum sudanense</i> (Sudan grass), <i>Sorghum vulgare</i> (sorghum), <i>Vetiveria zizanioides</i> (vetiver). Studies conducted in Pakistan on <i>H. zae</i> populations associated with maize and vetiver have suggested the existence of host races in <i>H. zae</i>.</p> <p>In many papers, it is considered that the host range of <i>H. zae</i> is limited to Poaceae. However, in Pakistan the presence of <i>H. zae</i> has also been reported on plants of economic importance which belong to other plant families as: <i>Capsicum annuum</i> (sweet pepper - Solanaceae), <i>Citrus</i> (Rutaceae), <i>Corchorus capsularis</i> (jute - Malvaceae), <i>Pyrus communis</i> (pear - Rosaceae), <i>Prunus dulcis</i> (almond - Rosaceae), <i>Raphanus sativus</i> (small radish - Brassicaceae), <i>Solanum lycopersicon</i> (tomato - Solanaceae). More data would be needed to better understand the role of these plant species in the biology of <i>H. zae</i> and assess the economic impact of the nematode on these crops.</p>
Damage	<p><i>H. zae</i> is a sedentary semi-endoparasite which feeds on roots. Affected plants are stunted, pale in colour, with narrow leaves. In the field, stunting frequently occurs in irregular patches. The development of maize tassels may be noticeably delayed and the maize plants bear smaller cobs with relatively fewer grains. The root system is poorly developed with a bushy appearance, and the presence of cysts on the root surface can be observed. In Pakistan, plants of tomato and almond infested by <i>H. zae</i> were severely stunted. Data on economic losses is generally lacking from countries where the pest occur, however, it has been observed that small numbers of nematodes could cause serious damage (e.g. 29% crop loss at 6 second stage juveniles/cm<sup>3</sup> soil in Rajasthan). During microplot experiments conducted in Maryland, it was observed that maize growth and yield could be reduced by 13 to 73% in the presence of <i>H. zae</i>, and that damage was more severe in coarse-textured soil, as well as under hot and dry conditions.</p> <p>Temperature plays an important role in the biology of <i>H. zae</i>, and favourable soil temperatures for most phases of the life cycle lay above 25°C. At temperatures of 10-15°C, only 10-20% of the juveniles emerge from cysts. The total life cycle from egg to reproducing adult is short and takes 15 to 17 days under favourable temperatures (about 27-39°C). It is estimated that under these optimal conditions, <i>H. zae</i> may complete 6-7 generations during a maize growing season.</p> <p>Males of <i>H. zae</i> are rare and reproduction is mainly parthenogenetic. Adult females are pear or lemon-shaped and pearly-white, turning light to dark brown as the cyst matures. Female produces a gelatinous egg mass; a portion of the eggs are deposited in an egg mass surrounded by this matrix. The remainder of the eggs are retained in the female body, which becomes a protective cyst after death.</p>
Dissemination	<p>As with most cyst nematodes, dissemination is largely ensured by passive transport with soil, water, and plant material. The mobile stages (juveniles, males) can only move over very short distances. As for other cyst nematode species, it is likely that <i>H. zae</i> cysts remain viable in the soil for long periods. During fields and laboratory experiments conducted in Maryland, it was observed that infective <i>H. zae</i> could survive at least 19 months in a fallow field with fine</p>

Pathway	<p>silty-clay soil and more than twice as long in the laboratory (i.e. up to 51 months at 2 °C and 24 °C, under moist conditions).</p> <p>Infested soil and growing media, plants for planting, bulbs and tubers from areas where <i>H. zae</i> occurs are the most probable pathways to introduce or spread this pest into the EPPO region. Soil attached to machinery, tools, footwear, or plant products is also another possible pathway.</p>
Possible risks	<p>Maize is widely grown in the EPPO region and is of major economic importance. Other cereal hosts, such as wheat and barley are also major crops in the EPPO region. Cyst nematodes are generally difficult to control once established because of the persistence of the cysts in the soil. Nematicide treatments are becoming more and more difficult to apply in field crops for economic and environmental reasons. Fields studies conducted in Egypt have showed that crop rotation with non-host plants (<i>Vicia faba</i> and <i>Trifolium alexandrinum</i>) could reduce the nematode populations and prevent damage to the succeeding maize crop. In contrast, when maize was rotated with barley or wheat, nematode populations increased significantly. Concerning the use of resistant cultivars, although few moderately resistant maize cultivars have been identified, almost all tested cultivars have been found to be suitable hosts for <i>H. zae</i>. Biological control has not been attempted against <i>H. zae</i>, although some soil-inhabiting fungi (e.g. <i>Arthrobotrys</i>, <i>Dactylaria</i>, <i>Curvularia</i>, <i>Paecilomyces</i>) and bacteria (e.g. <i>Bacillus</i>, <i>Pseudomonas</i>) have showed some effects against <i>H. zae</i>. Although more data is needed on the current distribution of this nematode in the EPPO region and its impact on maize and other cereal crops, it seems desirable to prevent its introduction or further spread.</p>
Sources	<p>Abdollahi M (2009) Analysis of cyst and cone top morphometrics of Indian populations of maize cyst nematode. <i>Journal of Plant Protection Research</i> 49(1), 41-47.</p> <p>Abdollahi M (2009) Hierarchical cluster analysis of Indian populations of <i>Heterodera zae</i> based on second stage juveniles and egg morphometrics. <i>International Journal of Agriculture and Biology</i> 11, 756-760.</p> <p>Bajaj HK, Gupta DC (1994) Existence of host races in <i>Heterodera zae</i> Koshy et al. <i>Fundamental and applied Nematology</i> 17(4), 389-390.</p> <p>CABI Crop Protection Compendium. Data sheet on <i>Heterodera zae</i>. <a href="http://www.cabi.org">http://www.cabi.org</a></p> <p>Chinnasri B, Tangchitsomkid N, Toida Y (1995) <i>Heterodera zae</i> on maize in Thailand. <i>Japanese Journal of Nematology</i> 24, 35-38.</p> <p>Correia FJS, Abrantes IM de O (2002) Morphobiometrical and biochemical characterisation of <i>Heterodera zae</i> Portuguese populations. <i>Nematology</i> 4, 243-244.</p> <p>Correia FJS, Abrantes IM de O (2005) Characterization of <i>Heterodera zae</i> populations from Portugal. <i>Journal of Nematology</i> 37, 328-335.</p> <p>Eisenback JD, Reaver DM, Stromberg EL (1993) First report of corn cyst nematode (<i>Heterodera zae</i>) in Virginia. <i>Plant Disease</i> 77(6), p 647.</p> <p>Hashmi G, Hashmi S, Krusberg LR, Huettel RN (1993) Resistance in <i>Zea mays</i> to <i>Heterodera zae</i>. <i>Journal of Nematology</i> 25(5), 820-823.</p> <p>Hashmi S, Krusberg LR, Sardanelli S (1993) Reproduction of <i>Heterodera zae</i> and its suppression of corn plant growth as affected by temperature. <i>Journal of Nematology</i> 25(1), 55-58.</p> <p>Inger CE, Sardanelli S, Krusberg LR (1987) Investigations on the host range of the corn cyst nematode, <i>Heterodera zae</i>, from Maryland. <i>Annals of Applied Nematology</i> 1, 97-106.</p> <p>Ismail AE (2009) Impact of winter wheat, barley, broad bean and clover as preceding crops on populations densities of corn cyst nematode, <i>Heterodera zae</i>, on corn in Egypt. In: Riley IT, Nicol JM, Dababat AA eds (2009) 'Cereal cyst nematodes: status, research and outlook.' (CIMMYT: Ankara, Turkey), Proceedings of the First Workshop of the International Cereal Cyst Nematode Initiative (2009-10-21/23, Antalya, TR), 245 pp.</p> <p><a href="http://repository.cimmyt.org/xmlui/bitstream/handle/123456789/1267/93390.pdf?sequence=1">http://repository.cimmyt.org/xmlui/bitstream/handle/123456789/1267/93390.pdf?sequence=1</a></p> <p>Krusberg LR, Sardanelli S, Grybauskas AP (1997) Damage potential of <i>Heterodera zae</i> to <i>Zea mays</i> as affected by edaphic factors. <i>Fundamental and Applied Nematology</i> 20(6), 593-599.</p> <p>Krusberg LR, Sardanelli S (1989) Survival of <i>Heterodera zae</i> in the field and in the laboratory. <i>Journal of Nematology</i> 21(3), 347-355.</p> <p>Lal A, Mathur VK (1982) Occurrence of <i>Heterodera zae</i> on <i>Vetiveria zizanioides</i>. <i>Indian Journal of Nematology</i> 12(2), 405-407.</p> <p>Maqbool MA (1981) Occurrence of root-knot and cyst nematodes in Pakistan. <i>Nematologia Mediterranea</i> 9(2), 211-212.</p> <p>Maqbool MA, Hashmi S (1984) New host records of cyst nematodes <i>Heterodera zae</i> and <i>H. mothi</i> from Pakistan. <i>Pakistan Journal of Nematology</i> 2(2), 99-100.</p> <p>McDonald AH, Nicol JM (2005) Nematodes parasites of cereals. In: Luc M, Sikora RA, Bridge J (eds.) <i>Plant parasitic nematodes in subtropical and tropical agriculture</i>. 2<sup>nd</sup> edition. CABI Wallingford (GB), pp 131-191.</p>

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EPPO RS 2012/006  
Panel review date

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### **2012/007 First report of *Diabrotica virgifera virgifera* in Russia**

The presence of *Diabrotica virgifera virgifera* (Coleoptera: Chrysomelidae - EPPO A2 List) was detected for the first time in Russia on 2011-08-16. The pest was caught in pheromone traps located near the road border inspection post of Matveev Kurgan (bordering Ukraine) in the region of Rostov (Southern Russia). Surveys are being carried out to delimit the extent of the infestation.

The situation of *Diabrotica virgifera virgifera* in Russia can be described as follows: **Present, first specimens caught in August 2011 near Matveev Kurgan (Rostov region, Southern Russia), under official control.**

**Source:** INTERNET  
Russian national Plant Quarantine Centre (in Russian only)  
<http://www.vniikr.ru/>

Federal Service for Veterinary and Phytosanitary Surveillance  
News of 2011-08-24 and 2011-08-30 (in Russian only)  
<http://fsvps.ru/fsvps/news/3470.html>  
<http://fsvps.ru/fsvps/news/3481.html>

Additional key words: new record

Computer codes: DIABVI, RU

### **2012/008 Situation of *Diabrotica virgifera virgifera* in France in 2011**

In 2011, the presence of *Diabrotica virgifera virgifera* (Coleoptera: Chrysomelidae - EPPO A2 List) was mainly reported from the eastern part of France. The number of captures has increased in Rhône-Alpes and Alsace, and locally in Bourgogne, Franche-Comté, Lorraine and Provence-Alpes-Côte d'Azur. The pest has recently been detected in Aquitaine near major roads and industrial areas where lorries are loaded/unloaded, thus suggesting that road transport is now playing a significant role in the dissemination of *D. virgifera virgifera*. No specimens were caught in Ile-de-France. Eradication and containment measures are continuing in France.

The situation of *Diabrotica virgifera virgifera* in France can be described as follows: **First found in 2002, eradicated from Ile-de-France but present in Alsace, Aquitaine, Bourgogne, Lorraine, Franche-Comté, Provence-Alpes-Côte d'Azur, Rhône-Alpes, under eradication/containment.**

**Source:** Délos M, Huguet B (2011) *Diabrotica* sur maïs ne prend plus guère l'avion mais tombe du camion. Note sur l'évolution du contexte de lutte contre *Diabrotica virgifera* en France et en Europe. *Phytoma - La Défense des Végétaux* no. 647, 26-30.

Additional key words: detailed record

Computer codes: DIABVI, FR

### 2012/009 First report of *Tuta absoluta* in Russia

In 2010, the presence of *Tuta absoluta* (Lepidoptera: Gelechiidae - EPPO A2 List) was detected for the first time in Russia. The pest was found in glasshouse tomatoes of the Krasnodar region (Southern Russia).

The situation of *Tuta absoluta* in Russia can be described as follows: **Present, first found in 2010 in Krasnodar region (Southern Russia) on glasshouse tomatoes.**

**Source:** Izhevsky SS, Akhatov AK, Sinyov SY (2011) [*Tuta absoluta* has been detected in Russia]. *Zashita i Karantin Rastenii* no. 3, 40-44 (in Russian).

Additional key words: new record

Computer codes: GNORAB, RU

### 2012/010 Status of *Drosophila suzukii* in Belgium

Following the finding of one adult male of *Drosophila suzukii* (Diptera: Drosophilidae - EPPO A2 List) in Belgium during the last week of November 2011 (EPPO RS 2011/211), a short survey was carried out by the NPPO. In the meantime, no more findings of the pest are reported. The NPPO decided to start a monitoring campaign from March 2012 using traps throughout Belgium which will mainly focus on soft fruit production. In addition, traps will be placed at border inspection points, at fruit auctions and in warehouses. The survey will focus especially on the region in West-Vlaanderen where the pest was found. Moreover, special attention will be paid to the occurrence of disease symptoms during quality controls. A selection of possible management options has been drawn up in case of future findings.

The pest status of *D. suzukii* in Belgium is officially declared as: **Transient, actionable, under surveillance.**

**Source:** NPPO of Belgium (2012-01).

Additional key words: detailed record

Computer codes: DROSSY, BE

### 2012/011 *Drosophila suzukii* continues to spread in France

In France, surveys conducted in 2011 on *Drosophila suzukii* (Diptera: Drosophilidae - EPPO A2 List) showed that the pest occurred in all regions where it was detected in 2010 (Aquitaine, Corse, Languedoc-Roussillon, Midi-Pyrénées, Provence-Alpes-Côte d'Azur, and Rhône-Alpes) and that it had spread to four new regions. In 2011, it was detected for the first time in Lorraine (Meuse department), Ile-de-France (Seine-et-Marne, Yvelines, Val-de-Marne), Pays-de-la-Loire (Maine-et-Loire) and Poitou-Charentes (Deux-Sèvres and Charente-Maritime). Severe damage was observed, mainly on cherry (*Prunus avium*),

strawberry (*Fragaria ananassa*), raspberry (*Rubus idaeus*), blackberry (*Rubus fruticosus*) and blueberry (*Vaccinium myrtillus*). Damage was also observed on peaches and apricots (*Prunus persica* and *P. armeniaca*) but to a lesser extent.

The situation of *Drosophila suzukii* in France can be described as follows: **Present, first reported in spring 2010**, it occurs in Aquitaine, Corse, Ile-de-France, Languedoc-Roussillon, Lorraine, Midi-Pyrénées, Pays-de-la-Loire, Poitou-Charentes, Provence-Alpes-Côte d'Azur and Rhône-Alpes, under official control.

**Source:** Weydert C, Bourguin B (2011) *Drosophila suzukii* menace l'arboriculture fruitière et les petits fruits. Point de situation sur cette mouche, ravageur nouveau et déjà très nuisible, et ce qu'on peut faire contre elle. *Phytoma - La Défense des Végétaux* no. 650, 16-20.

**Additional key words:** detailed record

**Computer codes:** DROSSU, FR

### 2012/012 *Luperomorpha xanthodera*: a new flea beetle recently introduced into the EPPO region

During the last decade, the presence of a new flea beetle species, *Luperomorpha xanthodera* (Coleoptera: Chrysomelidae), has been reported from several European countries on ornamental plants. *L. xanthodera* is a polyphagous species which originates from China. In Europe, it was first reported in 2003 in the United Kingdom on roses (in garden centres). In Italy, the insect was first reported in 2006 in Toscana as *Luperomorpha nigripennis* (see EPPO RS 2007/195), but subsequently identified as *L. xanthodera*. The presence of this new species has also been reported from France (2008), the Netherlands (2008, on roses in garden centres), Switzerland, Germany (2009), Hungary (2010, on ornamental plants grown in containers which had been imported from Italy), and Austria (2011, in a private garden near Salzburg). Its currently known geographical distribution can be summarized as follows:

**Asia:** China (no details).

**EPPO region:** Austria, France, Germany, Hungary, Italy, Netherlands, Switzerland, United Kingdom.

*L. xanthodera* is a polyphagous species; in European countries it has been reported on many ornamental species (e.g. *Citrus*, *Datura arborea*, *Euonymus japonicus*, *Hibiscus*, *Nerium oleander*, *Origanum vulgare*, *Pittosporum tobira*, *Pyracantha*, *Robinia hispida*, *Rosa*, *Trachelospermum jasminoides*, *Yucca gloriosa*). Studies conducted in Toscana (IT) have concluded that adults of *L. xanthodera* predominantly feed on flowers (anthophagous), whereas larvae are rhizophagous. It was also observed that *L. xanthodera* could complete two generations per year and overwintered in the soil. In the studied nurseries, feeding activities of adults on flowers only affected the petals but did not impair fruit-set (e.g. on citrus). It was noted that damage on flowers could be extensive but that this aesthetic damage did not produce significant economic loss in marketing the plants (as in these nurseries the most important criteria was the age/size of the plants). In addition, none of the numerous host plants infested by adults showed signs of damage to the root system, even when numerous larvae were detected. For the moment, it seems that *L. xanthodera* is a pest of minor economic importance. However, it probably has a high potential for further spread, considering its wide host range and the importance of the trade of ornamental plants.

Pictures of *L. xanthodera* can be viewed on the Internet:

<http://www.galerie-insecte.org/galerie/ref-78018.htm>

<https://plus.google.com/photos/116478720031217792455/albums/5535028486311667345/5535029461408911266?banner=pwa>

- Source:** Beenen R, Roques A (2010) Leaf and seed beetles (Coleoptera, Chrysomelidae). Chapter 8.3. *BioRisk* 4(1), 267-292. Available online: [http://www.pensoft.net/J\\_FILES/2/articles/617/52-G-1-layout.pdf](http://www.pensoft.net/J_FILES/2/articles/617/52-G-1-layout.pdf)
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Additional key words: new records

Computer codes: LUPMXA, AT, CH, DE, FR, GB, HU, IT, NL

## **2012/013 First report of Potato yellowing virus in Ecuador**

In the early 1990s, *Potato yellowing virus* (*Ilarvirus*, PYV - EPPO A1 List) was reported from potato (*Solanum tuberosum*) fields showing leaf chlorosis in Peru, and from symptomless wild potatoes (*S. fernandezianum*) in Chile (see EPPO RS 1993/151 and 2006/273). More recently, the presence of PYV has been detected in *S. phureja* (potato) collected from Ecuador where this crop constitutes an important source of income in rural communities. In addition, forty accessions of *S. phureja* collected from Ecuador in 1986 and maintained *in vitro* at the International Potato Center (CIP) germplasm bank were tested for PYV (DAS-ELISA). Results showed that PYV was present in 6 *S. phureja* accessions (15% of the material) which had been collected from different provinces (Azuay, Cañar, Loja), thus suggesting that the virus might be more widely spread than originally thought.

Until these studies, PYV was considered as an alfamo-like virus (family *Bromoviridae*) but as no sequence information was available, its taxonomic position within the *Bromoviridae* (which includes 5 genera: *Alfamovirus*, *Bromovirus*, *Cucumovirus*, *Ilarvirus* and *Oleavirus*) was uncertain. While studying isolates of PYV from Ecuador, phylogenetic analysis could be performed, and PYV sequences could be grouped with those of viruses of the genus *Ilarvirus* (*Fragaria chiloensis latent virus* being the closest relative). The authors concluded that PYV should be considered as member of the genus *Ilarvirus*.

- Source:** Silvestre R, Untiveros M, Cuellar WJ (2011) First report of *Potato yellowing virus* (genus *Ilarvirus*) in *Solanum phureja* from Ecuador. *Plant Disease* 94(3), p 335.

Additional key words: new record, taxonomy

Computer codes: PVY000, EC

**2012/014    New data on quarantine pests and pests of the EPPO Alert List**

By searching through the literature, the EPPO Secretariat has extracted the following new data concerning quarantine pests and pests included on the EPPO Alert List. Information sent by NPPOs has also been included here. The situation of the pest concerned is indicated in bold, using the terms of ISPM no. 8.

- **New records**

In Iran, *Chrysanthemum stem necrosis virus* (*Tospovirus*, EPPO A1 List) was detected for the first time in 2008 in samples of ornamental plants from the Mashhad region, Khorasan-e-razavi province (Jafarpour *et al.*, 2010).

Citrus leprosis virus (EPPO A1 List) is reported for the first time from Belize. It was detected in August 2011 in the Stann Creek district, south-east region of the country (ProMed posting, 2011). **Present, first found in 2011 in the south-east.**

In 2010, *Cryphonectria parasitica* (EPPO A2 List) was reported for the first time from Australia. The disease was detected on a small number of chestnut trees (*Castanea sativa*) in several orchards in north-east Victoria. Eradication measures have been taken (IPPC website, 2010-09). **Present, under eradication.**

*Diaphorina citri* (Hemiptera: Aphalaridae - EPPO A1 List), a vector of citrus huanglongbing, is reported for the first time from Barbados. Surveys are being carried out to determine its distribution (IPPC website, 2011-03). **Present, only in some areas.**

In 2011, the presence of ‘*Candidatus Liberibacter asiaticus*’ (EPPO A1 List) was reported for the first time in the northern part of Costa Rica (IPPC website, 2011-03). The pest status was officially declared as: **Present, only in some areas.**

‘*Candidatus Liberibacter asiaticus*’ (EPPO A1 List) occurs in Jamaica. A specific survey has revealed that huanglongbing occurs in all 14 parishes of the country (IPPC website, 2010-02). **Present, in all parts of the area where host crop(s) are grown.**

*Squash leaf curl virus* (*Begomovirus* - EPPO A2 List) was detected for the first time in 2009 in Lebanon (Abou-Jawdah *et al.*, 2010). **Present, no details.**

In Burkina Faso, leaf streak symptoms were observed for the first time in October 2009 in rice fields in three regions (Haut-Bassin, Cascades and East Centre). Molecular analysis confirmed the presence of *Xanthomonas oryzae* pv. *oryzicola* (EPPO A1 List). Further surveys are needed to evaluate the distribution of this bacterium in Burkina Faso and its impact. It is also reported that *X. oryzae* pv. *oryzicola* has recently been reported from Mali (Wonni & Ouedraogo, 2011). **Present, no details.**

- **Detailed records**

From May to July 2010 severe outbreaks of *Clavibacter michiganensis* subsp. *michiganensis* (EPPO A2 List) were observed in 16 tomato fields (covering more than 300 ha) in the province of Viterbo, Lazio region, Italy (Lamichhane *et al.*, 2011).

In China, *Monilinia fructicola* (EPPO A2 List) has been detected for the first time in the provinces of Zhejiang and Fujian on peaches (*Prunus persica*) (Hu *et al.*, 2011).

In the United Kingdom, a survey for the presence of *Pepino mosaic virus* (*Potexvirus*, PepMV - EPPO Alert List) was conducted from August 2010 to July 2011. As a result, 3 outbreaks of PepMV were detected in premises producing tomato fruit. Two of these were linked to earlier outbreaks, with re-emergence in the subsequent crops. The third outbreak is new and its cause is not yet known. In this last case, only a small proportion of the crop (approximately 2%) was affected (NPPO of the United Kingdom, 2011).

In 2010, an outbreak of *Plasmopara halstedii* (EU Annexes) was noticed in a few sunflower (*Helianthus annuus*) fields in Tiszántúl, in the south-east part of the Hungarian Great Plain. Samples were collected from this region (near Vészto and Kondoros) and the races of *P. halstedii* were characterized. A new race (704) was found in the tested samples. Until this finding, 5 races of *P. halstedii* (100, 700, 730, 710, 330) had been identified in Hungary (Kinga *et al.*, 2011).

Bacterial spot of tomato (associated with *Xanthomonas* spp.) is considered as a common disease in Ohio and Michigan (US). In 2009 and 2010, outbreaks of bacterial spot characterized by significant fruit spotting occurred in at least 2 000 ha of tomatoes (grown for processing) in North-west Ohio and South-east Michigan. Losses were estimated at 7.8 million USD. In 2010, fruit and leaf samples were collected from 32 tomato fields in Ohio and Michigan. As a result, 83 bacterial isolates were identified as *Xanthomonas* spp. Out of these, 11 were identified as *X. euvesicatoria*, 8 as *X. perforans*, 62 as *X. gardneri* (2 isolates did not match any of the reference strains). This is the first time that *X. gardneri* is detected in Ohio and Michigan (Ma *et al.*, 2011).

- **Host plants**

In Norway, during the annual survey on *Phytophthora ramorum* carried out in 2009, wild blueberry plants (*Vaccinium myrtillus*) were found to be infected by *Phytophthora ramorum* (EPPO Alert List). These plants had been collected from an arboretum located along the southwest coast and displayed necrotic lesions on shoot tips, branching points and around leaf abscission scars. All positive samples were found in close vicinity of infected rhododendron plants. In this location, *P. ramorum* had been detected in 2005 on rhododendron. This is the first time that *P. ramorum* is detected on *V. myrtillus* in Norway (Herrero *et al.*, 2011).

**Source:** Abou-Jawdah Y, Sobh H, Haidar A, Samsatly J (2010) First report in Lebanon on detection of two whitefly-transmitted cucurbit viruses and their molecular characterization. *Petria* 20(20), p 268.  
 Herrero ML, Toppe B, Brurberg MB (2011) First report of *Phytophthora ramorum* causing shoot dieback on bilberry (*Vaccinium myrtillus*) in Norway. *Plant Disease* 95(4), p 335.  
 Hu MJ, Chen Y, Chen SN, Liu XL, Yin LF, Luo CX (2011) First report of brown rot of peach caused by *Monilinia fructicola* in Southeastern China. *Plant Disease* 95(2), p 225.  
 IPPC website. Official Pest Reports - Australia. Confirmation of chestnut blight in north-east Victoria (2010-10-11). <https://www.ippc.int/index.php>  
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**Additional key words:** new records, detailed records, host plants

**Computer codes:** CILV00, CORBMI, DIAACI, ENDOPA, LIBEAS, MONIFC, PEPMV0, PHYTRA, PLASHA, SLCV00, XANTEU, XANTGA, XANTPF, XANTTO, AU, BB, BF, BZ, CN, CR, GB, HU, IT, JM, LB, ML, NO, US

**2012/015 Outcomes of the Tunisian experience on farmer field school management of *Solanum elaeagnifolium***

*Solanum elaeagnifolium* (Solanaceae, EPPO A2 List) is very detrimental to agriculture in Morocco and Tunisia. FAO supported a regional programme on the management of exotic invasive weeds, including *S. elaeagnifolium*. This programme was in place in Morocco and Tunisia from July 2008 to December 2009. Several options for the management of *S. elaeagnifolium* have been evaluated in three Farmer Field Schools (FFS) located in two heavily infested regions in Tunisia (Kairouan and Sidi Bouzid) and a recently infested one (Mahdia). FFS involved about 75 farmers and technicians who were trained on the following topics:

- The identification of *S. elaeagnifolium* to prevent its establishment in non-infested areas,
- The biology of *S. elaeagnifolium* as a tool for its practical management,
- The cultural and hand weeding options against *S. elaeagnifolium*,
- Alfalfa's ability to suppress *S. elaeagnifolium*,
- *S. elaeagnifolium* control with herbicides,
- Manure composting to kill *S. elaeagnifolium* seeds and prevent its spread.

These FFS were an occasion to enhance farmers' ability to identify *S. elaeagnifolium* and test various control methods in order to identify their limitations and eventually adopt the most suitable practices. It was concluded that an integrated management approach will be needed to control *S. elaeagnifolium*.

**Source:** Mekki M, M'hafdh M, Belhaj R, Alrouechdi K (2011) Outcomes of the Tunisian Experience on Farmer Field School Management of an invasive species *Solanum elaeagnifolium*. In Brunel S, Uludag A, Fernandez-Galiano E, Brundu G (Eds.) Proceedings of the 2<sup>nd</sup> International Workshop on Invasive Plants in the Mediterranean Type Regions of the World, 2010-08-02/06, Trabzon, Turkey pp. 240-248.  
[http://archives.eppo.org/MEETINGS/2010\\_conferences/ias\\_trabzon/Proceedings\\_Trabzon\\_Workshop.pdf](http://archives.eppo.org/MEETINGS/2010_conferences/ias_trabzon/Proceedings_Trabzon_Workshop.pdf)

**Additional key words:** Invasive alien plant

**Computer codes:** SOLEL, TN

**2012/016 The role of restoration in the management of alien plants invasions**

Invasions can reduce ecosystem resilience - that is to say the magnitude of disturbance that a system can absorb before it changes to alternative (stable) state. If resilience is reduced below a certain threshold, the system will change to an alternative state. Alternative ecosystems can shift (often very abruptly) between two or more states and may have dynamics that are fundamentally different from those of pristine ecosystems. The trajectory to recovery will therefore differ in unpredictable ways from a pristine state to a degraded state. If the invaded ecosystem reaches a certain degree of degradation, it might shift to a hybrid or even to a novel ecosystem state; depending on the interactions between biotic and abiotic changes triggered by invasive species.

Traditional restoration practices have focused on re-establishing historical biotic and abiotic conditions. However, in view of the significant changes caused by invasive species, new approaches recognize the existence of alternative (stable or transient) ecosystem states.

The author highlights the growing challenges in restoring ecosystems affected by invasive alien plants, to illustrate a framework for restoring ecosystems degraded by invasions adopting concepts of alternative states, thresholds and novel ecosystems, and to identify

new questions and research needs for the development of a general framework for restoring ecosystems affected by alien plant invasions.

**Source:** Gaetner M, Holmes P M, Richardson D (2011) Managing alien plant invasions: the role of restoration - Insights from South Africa. *In* Brunel S, Uludag A, Fernandez-Galiano E, Brundu G (Eds.) Proceedings of the 2<sup>nd</sup> International Workshop on Invasive Plants in the Mediterranean Type Regions of the World, 2010-08-02/06, Trabzon, Turkey pp. 256- 266.  
[http://archives.eppo.org/MEETINGS/2010\\_conferences/ias\\_trabzon/Proceedings\\_Trabzon\\_Workshop.pdf](http://archives.eppo.org/MEETINGS/2010_conferences/ias_trabzon/Proceedings_Trabzon_Workshop.pdf)

**Additional key words:** Invasive alien plant

### **2012/017    Biology and control of *Heterotheca subaxillaris* in Israel**

*Heterotheca subaxillaris* (Asteraceae) or camphor weed is a dicotyledonous winter annual weed native to North America. The plant invaded Israel during the last 20 years and rapidly infested a wide range of habitats including cultivated and non-cultivated ecosystems, such as orchards, nature reserves, range land, open fields, waste grounds, roadsides and railroad embankments.

Experiments highlighted that optimum germination occurs at 28/22 °C (day/night), but high germination rate were still recorded even at 34/28 °C. Highest emergence (88%) was recorded when seeds were sown at a shallow depth (0-1 cm) in sandy soil. Less than half of the seeds emerged from the shallow depth (0-1cm) in the heavy (clay) soil while no seedlings emerged from deeper layers. *H. subaxillaris* is very sensitive to herbicides commonly applied in road sides and non-cultivated areas such as atrazine, diuron, sulfometuron and imazapyr at their appropriate recommended rates.

**Source:** Quaye M, Yaacoby T, Rubin B (2011) Biology and control of *Heterotheca subaxillaris* (Camphor weed) in Israel. *In* Brunel S, Uludag A, Fernandez-Galiano E, Brundu G (Eds.) Proceedings of the 2<sup>nd</sup> International Workshop on Invasive Plants in the Mediterranean Type Regions of the World, 2010-08-02/06, Trabzon, Turkey pp. 274-282.  
[http://archives.eppo.org/MEETINGS/2010\\_conferences/ias\\_trabzon/Proceedings\\_Trabzon\\_Workshop.pdf](http://archives.eppo.org/MEETINGS/2010_conferences/ias_trabzon/Proceedings_Trabzon_Workshop.pdf)

**Additional key words:** Invasive alien plant

**Computer codes:** HTTSU, IL

### **2012/018    *Prosopis juliflora*: a threat to agriculture and pastoralism in Sudan**

Common mesquite (*Prosopis juliflora*, Fabaceae) is an evergreen leguminous tree native to the Americas. The tree was introduced into Sudan in 1917 to combat desertification. Its successful establishment and ability to fix sand dunes encouraged further introductions and deliberate spread of the species within the country. The tree was planted as shelterbelts around towns, cities and agricultural schemes in places threatened by desertification. Mismanagement, over exploitation of natural vegetation, coupled with the invasive nature of the plant, enhanced rampant spread of mesquite and fostered colonization of a variety of habitats.

It is currently estimated that the area invaded by mesquite is over one million hectares. The tree has become a national pest and is a threat to agriculture, biodiversity and

pastoralism. Management, which relies on eradication and containment of satellite foci seems to be the plausible solution.

**Source:** Babiker A G T, Nagat E M & Ahmed E A M (2011) Mesquite (*Prosopis juliflora*): A threat to agriculture and pastoralism in Sudan. *In* Brunel S, Uludag A, Fernandez-Galiano E, Brundu G (Eds.) Proceedings of the 2<sup>nd</sup> International Workshop on Invasive Plants in the Mediterranean Type Regions of the World, 2010-08-02/06, Trabzon, Turkey pp. 283-287.  
[http://archives.eppo.org/MEETINGS/2010\\_conferences/ias\\_trabzon/Proceedings\\_Trabzon\\_Workshop.pdf](http://archives.eppo.org/MEETINGS/2010_conferences/ias_trabzon/Proceedings_Trabzon_Workshop.pdf)

**Additional key words:** Invasive alien plant

**Computer codes:** PRCJU, SD

### 2012/019 Effect of *Ambrosia artemisiifolia* invasion on public health and agricultural production in Hungary

In Hungary, *Ambrosia artemisiifolia* (Asteraceae, EPPO List of IAP) infests almost 80% of the arable land and has become the most important weed in agricultural crops during the last 20 years.

*A. artemisiifolia* was first reported as an arable weed during the first half of the 1920s in the South-Transdanubian part of Hungary, introduced from the neighboring parts of the former Yugoslavia. A boom in its spread could be linked to the political transitions which took place in Eastern Europe during the 1980s and 1990s. During that process, virtually all socialist type agricultural co-operatives were closed and their lands subdivided and redistributed to their former owners or descendants, who in many cases did not continue to cultivate them. The large and formerly well-kept agricultural fields were abandoned and quickly colonized by *A. artemisiifolia*. In addition, new roads, motorways and shopping centres were built, but little co-ordination was put into landscape management. This created large disturbed areas, where the weed readily became established. In less than a decade, *A. artemisiifolia* became the most widespread weed species in both agricultural and urban areas in Hungary. In 2003, the weed was present on 5.4 million hectares in Hungary, of which 700 000 hectares were heavily infested.

The weed can create dense stands in cereal fields at the time of harvest and continuous ground cover in wheat stubbles. It can cause considerable yield losses, mainly in row crops. It is very harmful in maize, due to its rapid growth. In addition, 25% of the Hungarian population suffer from allergy to its pollen. The highest peak pollen counts in Europe are reported from the Carpathian Basin, Serbia and Hungary. It has also been shown from several studies, that *A. artemisiifolia* contains allelochemicals which may have important negative effects on artificial and natural ecosystems.

**Source:** Okumu M N, Lehoczk É (2011) Effect of *Ambrosia artemisiifolia* invasion on public health and agricultural production in Hungary. *In* Brunel S, Uludag A, Fernandez-Galiano E, Brundu G (Eds.) Proceedings of the 2<sup>nd</sup> International Workshop on Invasive Plants in the Mediterranean Type Regions of the World, 2010-08-02/06, Trabzon, Turkey pp. 353-365.  
[http://archives.eppo.org/MEETINGS/2010\\_conferences/ias\\_trabzon/Proceedings\\_Trabzon\\_Workshop.pdf](http://archives.eppo.org/MEETINGS/2010_conferences/ias_trabzon/Proceedings_Trabzon_Workshop.pdf)

**Additional key words:** Invasive alien plant

**Computer codes:** AMBEL, HU

**2012/020    *Solanum elaeagnifolium*, an increasing problem in Greece**

*Solanum elaeagnifolium* (Solanaceae, EPPO A2 List) has spread during the last 20 years across Greece, especially in Thessaloniki and Chalkidiki because of the intensive human activities (constructions of new roads, building or agricultural activities). A significant proportion of fields with arable, horticultural and perennial crops, as well as waste lands and roadsides, have been infested by this weed.

Mature berries of the plant contain high levels of solanine and solanosine which are toxic to livestock. Large infestations can reduce harvest yields by competing for nutrients and soil moisture, and have allelopathic effects especially in cotton fields. *S. elaeagnifolium* develops colonies from extensive systems of creeping horizontal and deep vertical roots, both of which produce new shoots. Fruits and seeds disperse via agricultural activities, water, mud, soil movement and animals. Colonies of *S. elaeagnifolium* are difficult to control by mechanical or biological methods because no biocontrol agent is currently registered against this plant. In Greece, the only method used against *S. elaeagnifolium* in irrigated summer and perennial crops consists of weekly mowing that prevents the production of new shoots or the establishment of new seedlings during summer months. However, this practice does not permanently solve the problem, as shallow cultivation does not disturb sufficiently the root system while it increases the problem by dispersing rhizome fragments to non-contaminated areas.

**Source:** Kotoula-Syka E (2011) *Solanum elaeagnifolium*, an increasing problem in Greece. In Brunel S, Uludag A, Fernandez-Galiano E, Brundu G (Eds.) Proceedings of the 2<sup>nd</sup> International Workshop on Invasive Plants in the Mediterranean Type Regions of the World, 2010-08-02/06, Trabzon, Turkey pp. 400-403.  
[http://archives.eppo.org/MEETINGS/2010\\_conferences/ias\\_trabzon/Proceedings\\_Trabzon\\_Workshop.pdf](http://archives.eppo.org/MEETINGS/2010_conferences/ias_trabzon/Proceedings_Trabzon_Workshop.pdf)

**Additional key words:** Invasive alien plant

**Computer codes:** SOLEL, GR

**2012/021    7<sup>th</sup> NEOBOTA Conference, Pontevedra (ES), 2012-09-12/14**

The 7<sup>th</sup> NEOBOTA Conference on biological invasions will be held in Pontevedra (ES) on 2012-09-12/14 and is entitled “Halting Biological Invasions in Europe: from Data to Decisions”. This 7<sup>th</sup> NEOBOTA conference intends to provide an international high-level forum to incorporate research into decision making processes and management of invasive alien species. Researchers, representatives from governmental entities, non-profit organizations, and any person or party involved in biodiversity conservation and natural resource management is invited to participate and to share ideas, new results and opinions in the field of biological invasions.

All ecosystems and organisms will be considered and the topics that will be covered during the conference include:

- Impacts of biological invasions;
- Management of biological invasions;
- Ecology of biological invasions;
- Evolution of biological invasions.

Abstracts for oral or poster contributions shall be sent by the 31<sup>st</sup> of May to [neobiota2012@gmail.com](mailto:neobiota2012@gmail.com).

NEOBOTA Website: <http://eei2012-neobiota2012.blogspot.com>

Source: Eppo Secretariat (2012-01).

Additional key words: Invasive alien plants, conference

Computer codes: ES

**2012/022 European Commission consultation on a dedicated legislative instrument on invasive alien species**

The European Commission is preparing a dedicated legislative instrument on invasive alien species. In preparation of this instrument, the European Commission is now seeking views on the more specific choices to be made when establishing this instrument. The European Commission has therefore launched a “consultation on a dedicated legislative instrument on invasive alien species”. All citizens and organisations are welcome to contribute to this consultation which is in the format of a questionnaire. Contributions are particularly sought from stakeholder organisations and Member States.

The questionnaire can be found at:

[http://ec.europa.eu/environment/consultations/invasive\\_aliens.htm](http://ec.europa.eu/environment/consultations/invasive_aliens.htm)

Preparatory documents are available from:

[http://ec.europa.eu/environment/nature/invasivealien/index\\_en.htm](http://ec.europa.eu/environment/nature/invasivealien/index_en.htm)

Source: European Commission, DG Environment, E-mail: [ENV-BIODIVERSITY@ec.europa.eu](mailto:ENV-BIODIVERSITY@ec.europa.eu)

Additional key words: Invasive alien plants